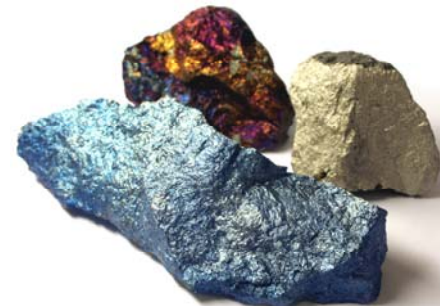




Global Overview of Mn Ore & Alloys

Mark Camaj
Market Analyst, IMnI





Presentation General Overview:

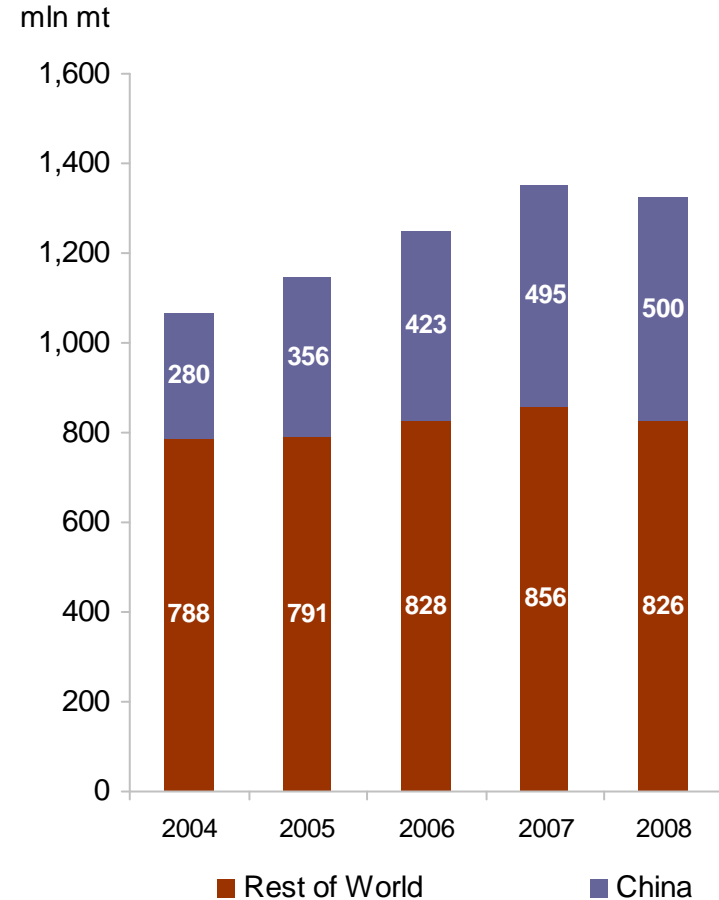
- Steel in 2008
- Mn Alloy in 2008
- Mn Ore in 2008
- Summary



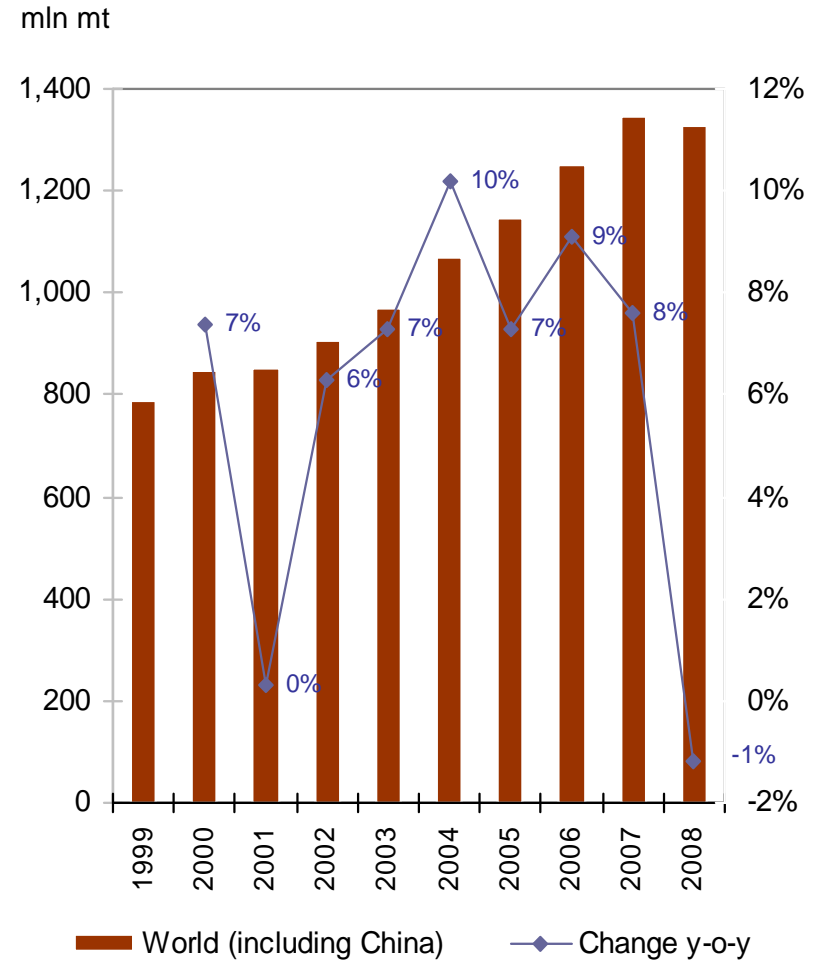
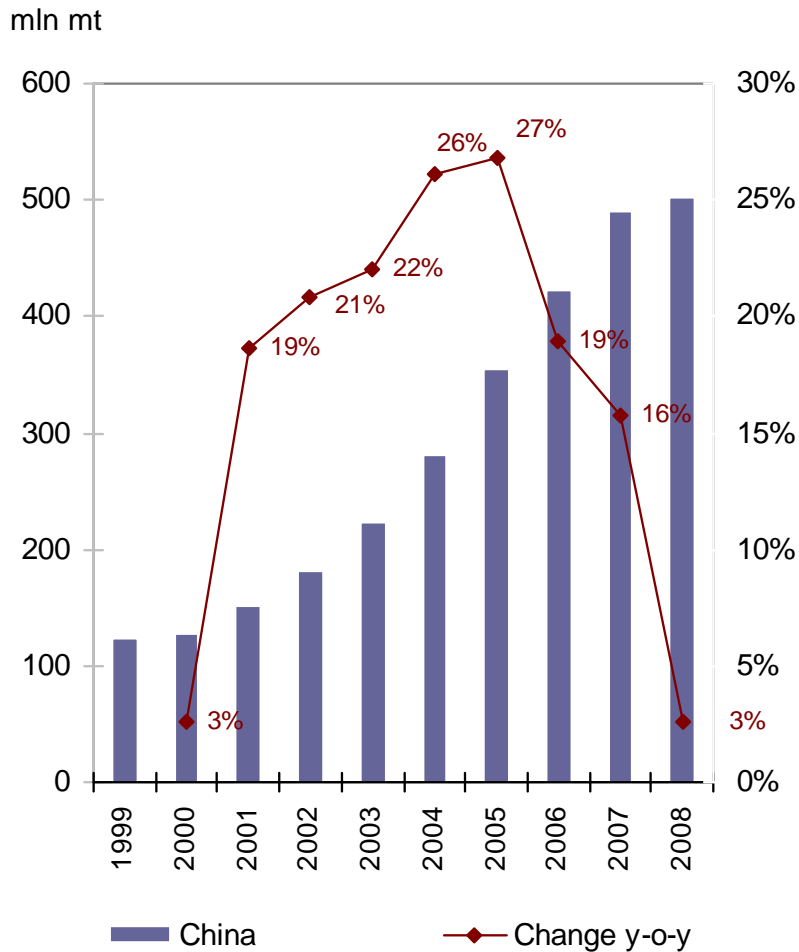
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Steel in 2008

- 90% of Mn consumed as alloys in the steel production process
- Global crude output down 1.8% in 2008 to 1.326 billion mt
- Since the turn of the century, average global growth rate had been 7%, with only 2001 having a growth rate under 6% - In that recession year, growth was relatively flat (0.3%).
- China production up a mere 1.1% to 500 million mt
- China's 7-yr CAGR* (2000-07) was 21.4%
- Jan. 2009 total global output down 24%; China output up 2.4%



Steel in 2008





Steel & Mn Stats

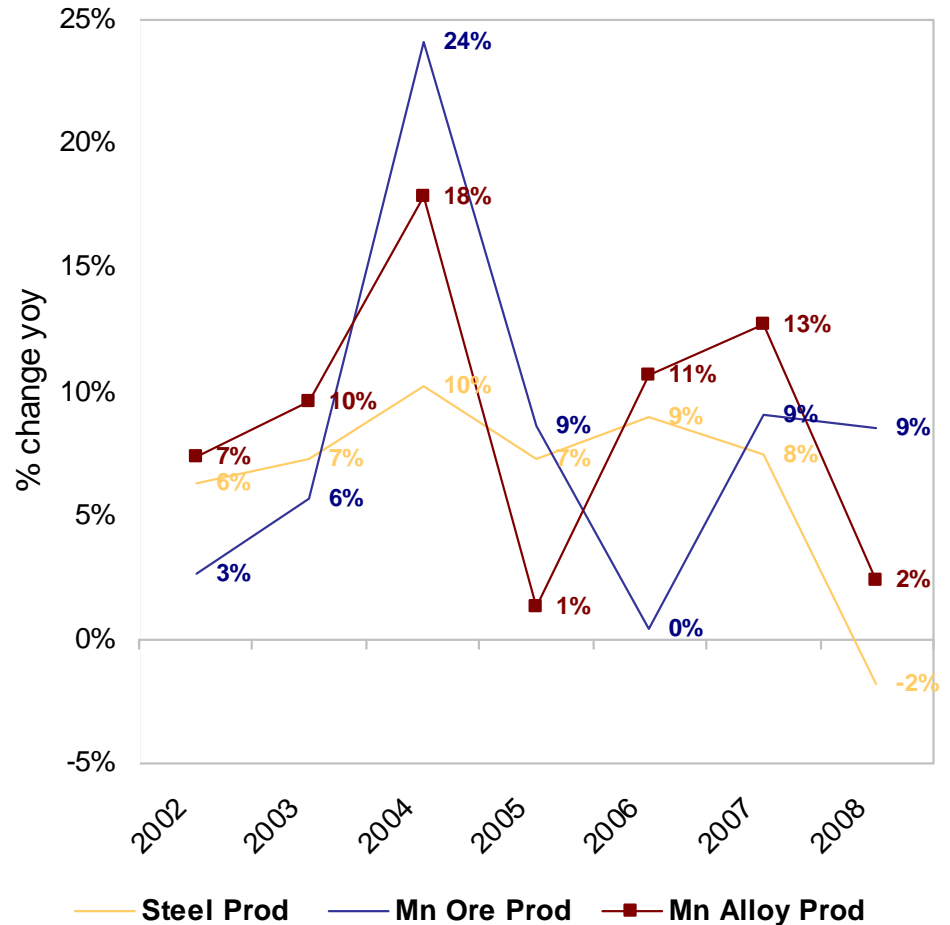
	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
Steel Production (Million mt)	850	904	970	1,069	1,147	1,251	1,351	1,327
% Change yoy		6.3%	7.3%	10.2%	7.3%	9%	7.5%	-1.8%
Mn Ore* Production (K mt)	7,935	8,153	8,618	10,715	11,660	11,705	12,768	13,853
% Change yoy		2.7%	5.7%	24.1%	8.6%	0.4%	9.1%	8.5%
Mn Alloy** Production (K mt)	7,786	8,358	9,157	10,798	10,655	11,800	13,296	13,623
% Change yoy		7.4%	9.6%	17.9%	1.3%	10.7%	12.7%	2.4%
Mn Alloy App Cons (K mt)	7,801	8,282	9,096	10,731	10,840	11,715	13,340	13,475
% Change yoy		6.2%	9.8%	18%	1%	8.1%	13.9%	1%
Mn Alloy Real Unit Cons (Kg per mt of steel)	9	9	9	10	10	10	10	10

*Mn Ore refers to ore in Mn content

**Mn alloy refers to gross alloy volumes

Steel & Mn Stats

- Mn ore & alloy production tends to follow the movement in steel production with a slight lag
- Swings in Mn production tend to be more pronounced – bigger ups and bigger downs
- Major Mn ore & alloy producers have announced significant cutbacks in production in response to production reductions by steel mills

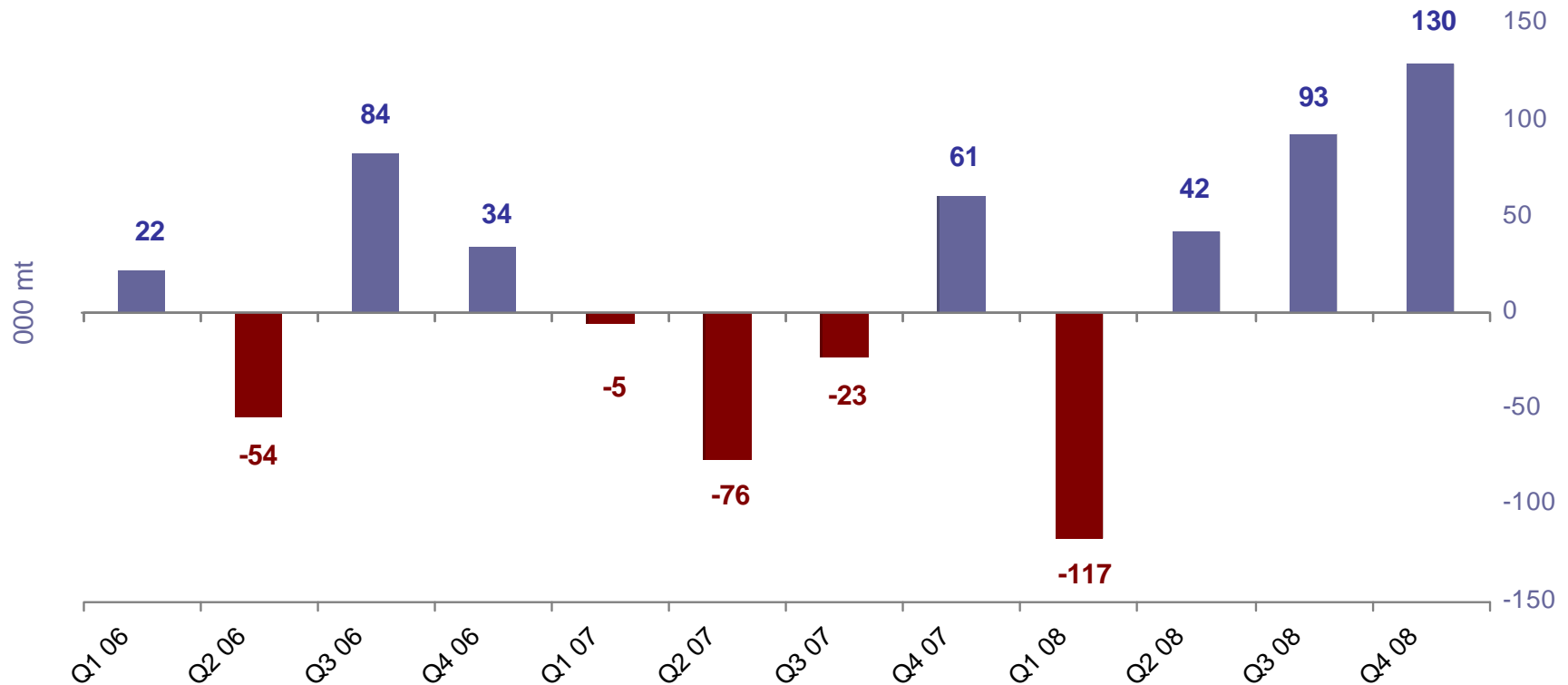




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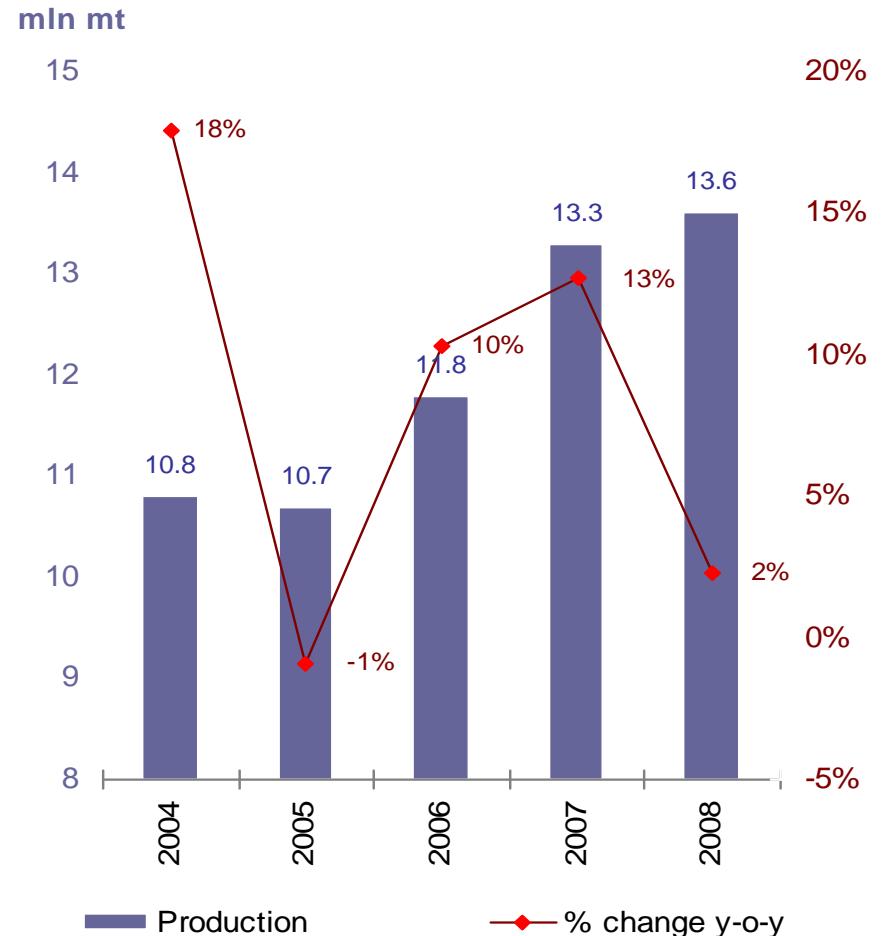
Mn Alloy Supply Demand

- Q1 2008 deficit in supply of 120K mt
- 3 consecutive quarters of supply surplus
- Q4 surplus of 130K mt of Mn alloys



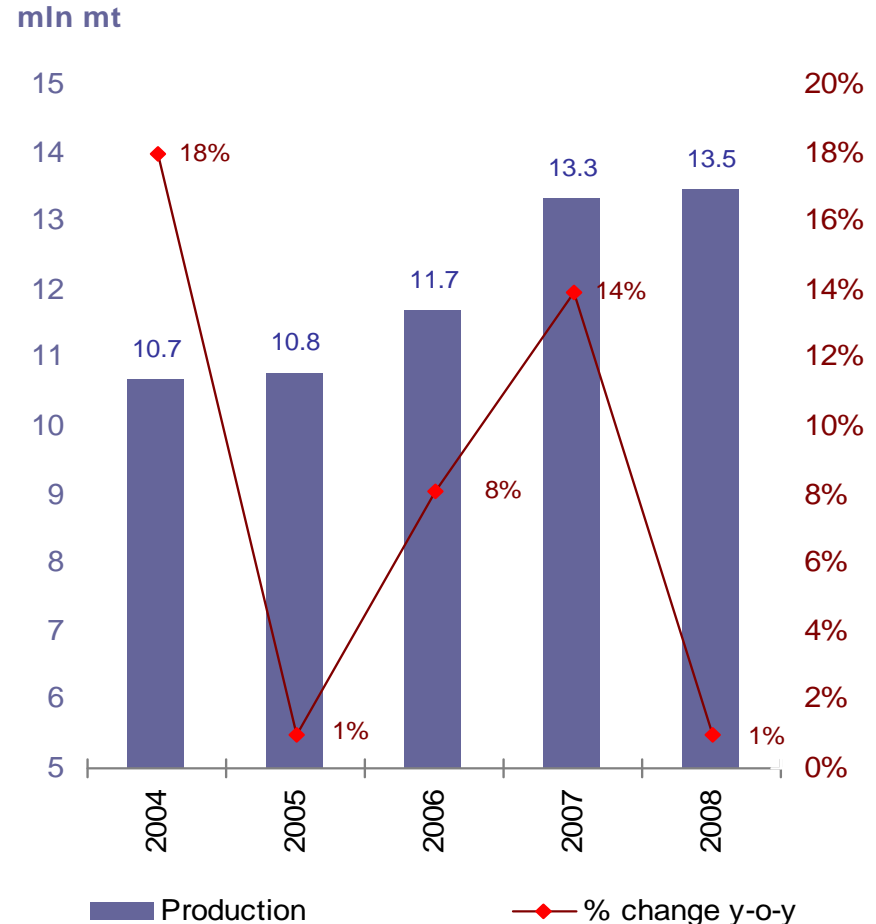
Mn Alloy Production

- Mn alloy production up 2% in 2008 after two years of double digit growth – 13.6 million mt
- Mn alloy production in Q4 08 was down 24% from same period in 2007 – all major regions declined
- China accounts for roughly 51% of global production
- Ukraine accounts for another 12%
- India for 8% & EEA for 7%



Mn Alloy Consumption

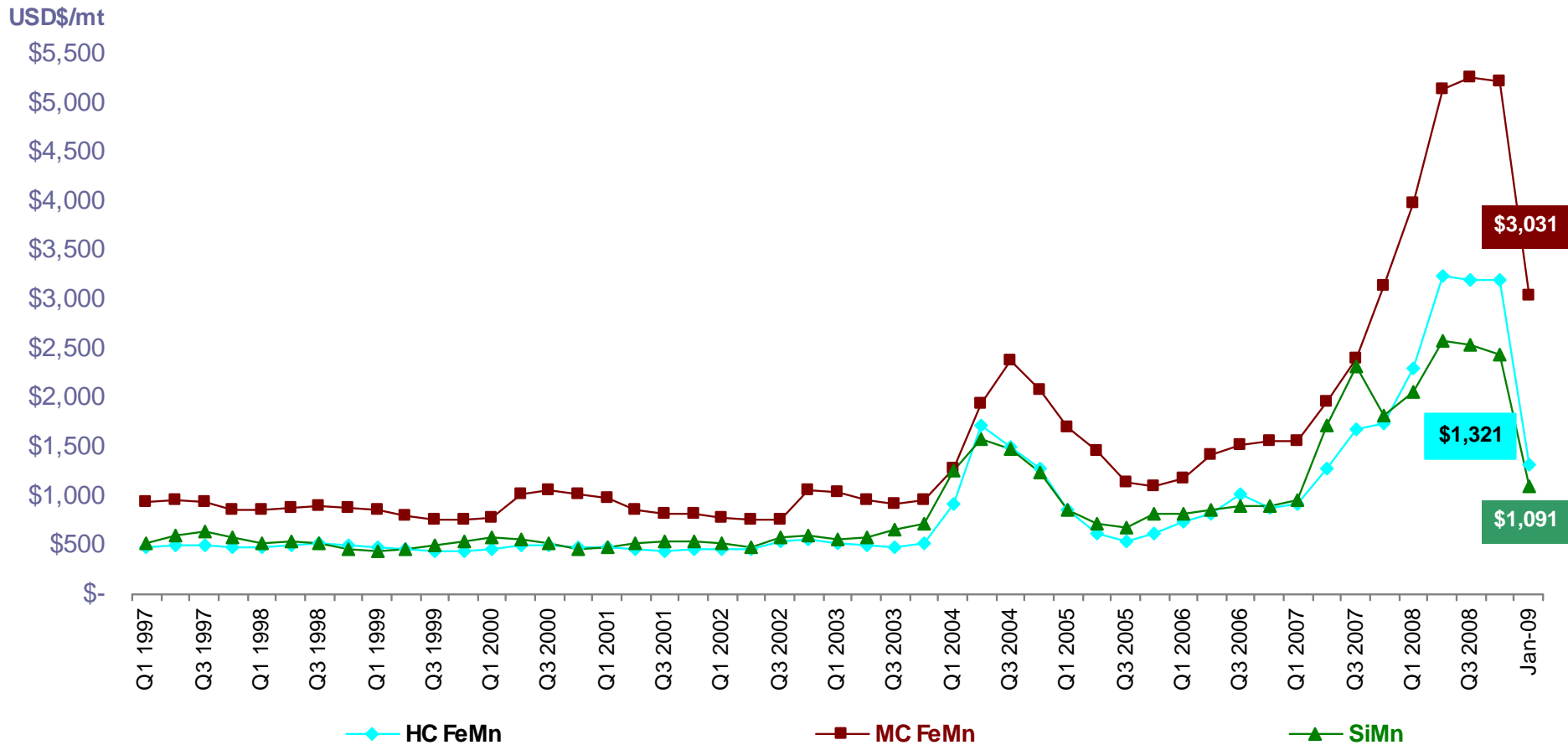
- Mn alloy consumption up a mere 1% in 2008 after healthy growth in two previous years – 13.5 million mt
- Mn alloy consumption in Q4 08 was down 26% from same period in 2007 – all major regions declined
- Weak demand in the latter part of year reduced exports of alloys and caused prices to begin to fall from their peaks reached throughout the year





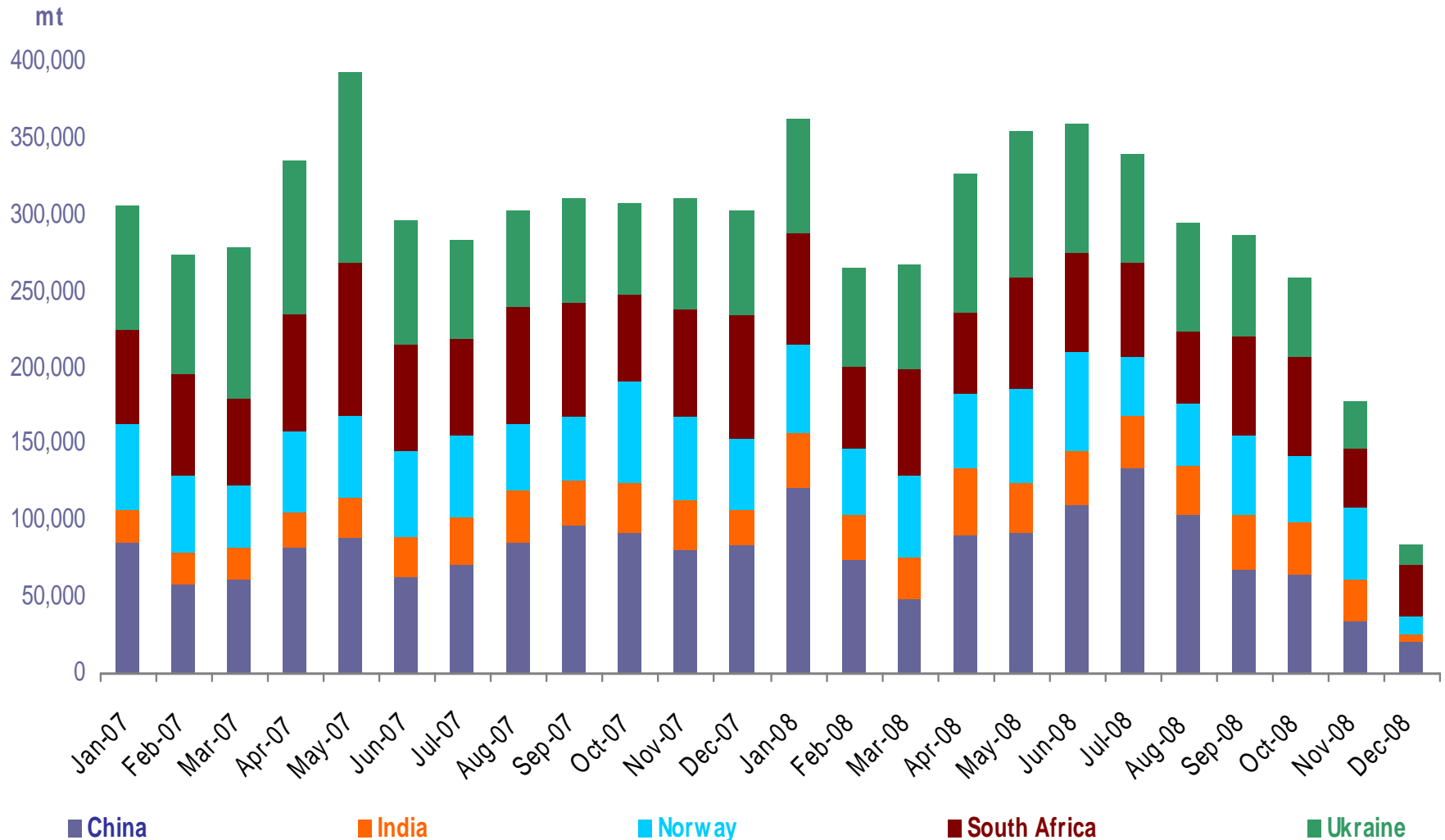
Mn Alloy Prices

- Record highs in 2008 – inactive trading in Q4 08
- Traders look to sell off material as steel mills seek to reduce inventories



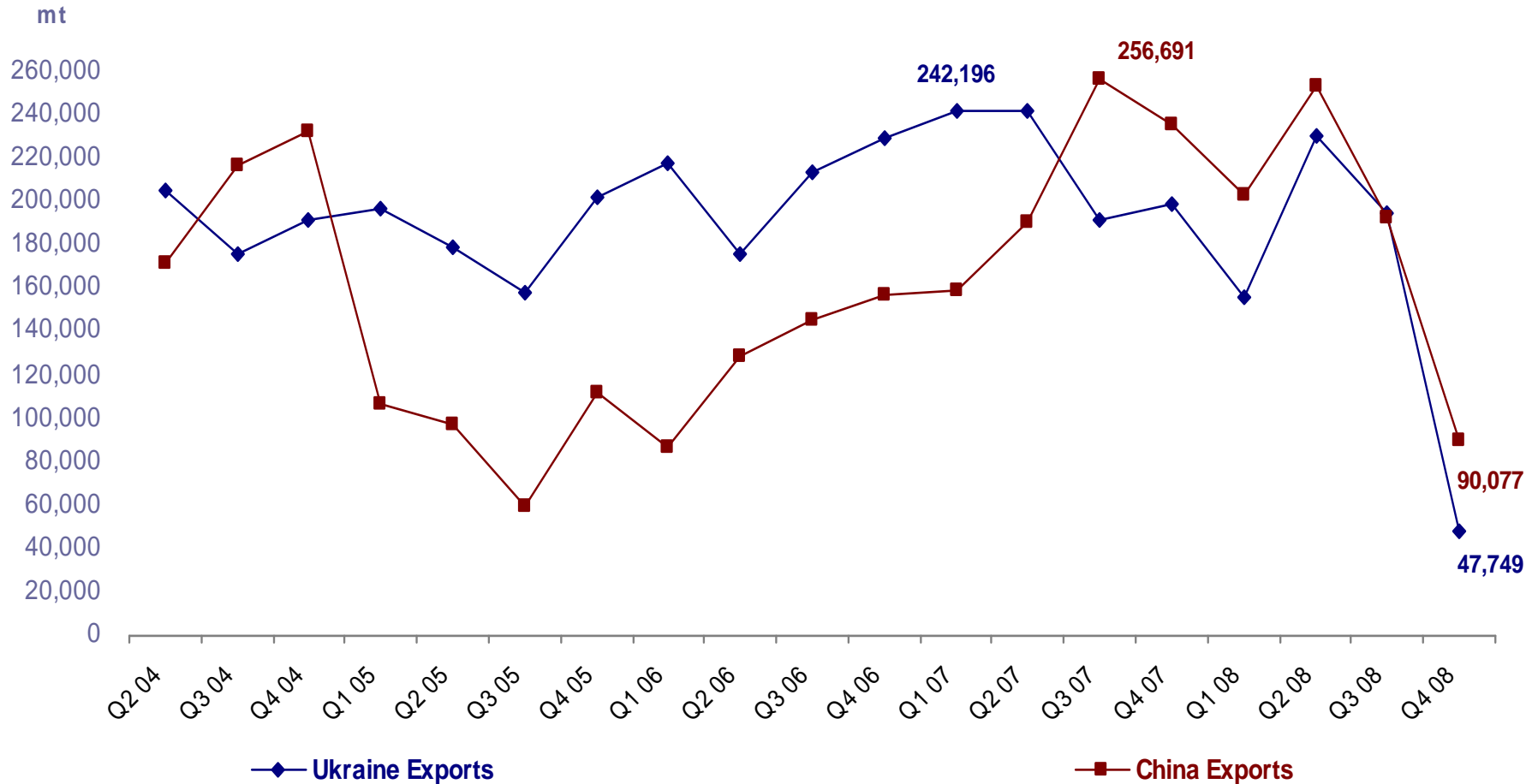
Mn Alloy Trade flows

- Imports decline sharply in Nov 2008 - China & Ukraine witness biggest falls in exports



Mn Alloy Trade flows (SiMn)

- China exported 90K mt in Q4 08 vs. 236K mt in Q4 07 (-62% yoy), peaked Q3 07 257K mt
- Ukraine exported 48K mt in Q4 08 vs. 199K mt in Q4 07 (-76% yoy), peaked Q1 07 242K mt

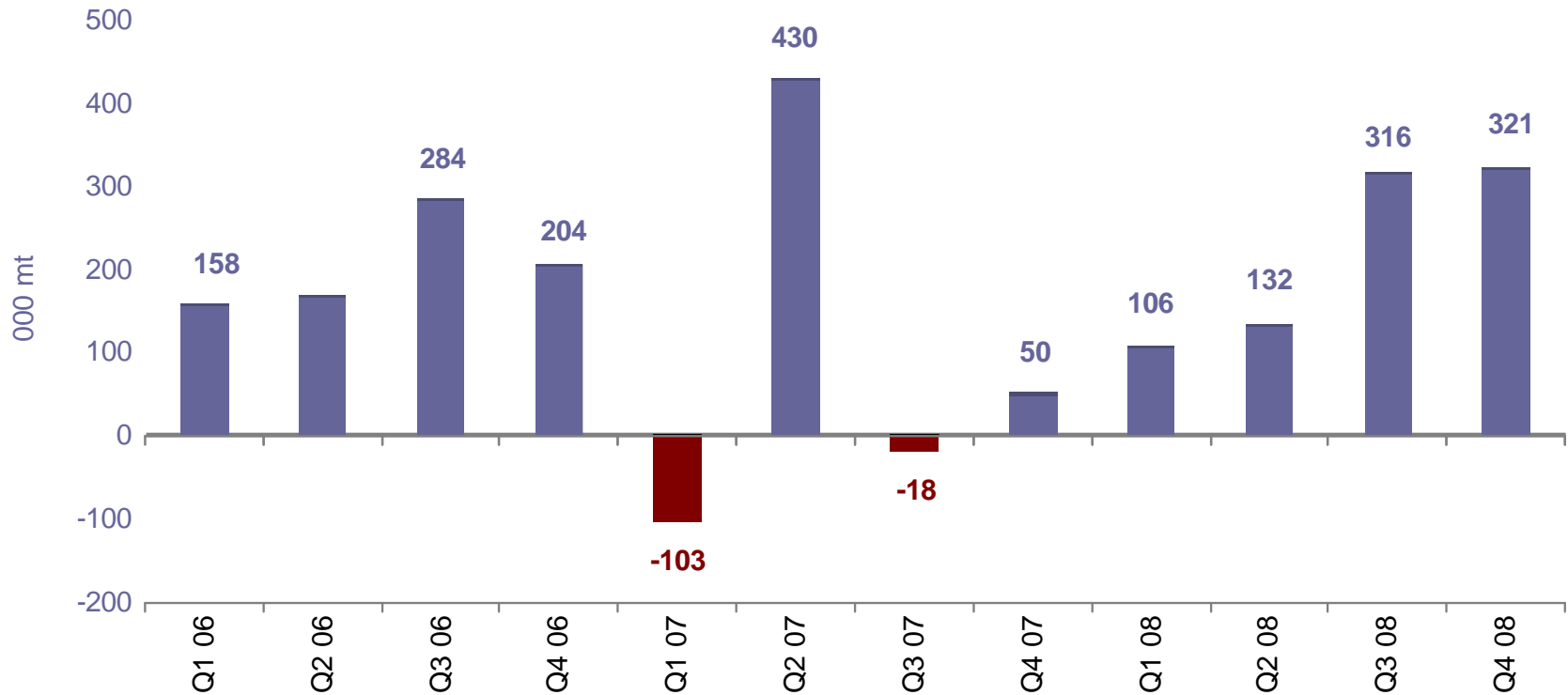




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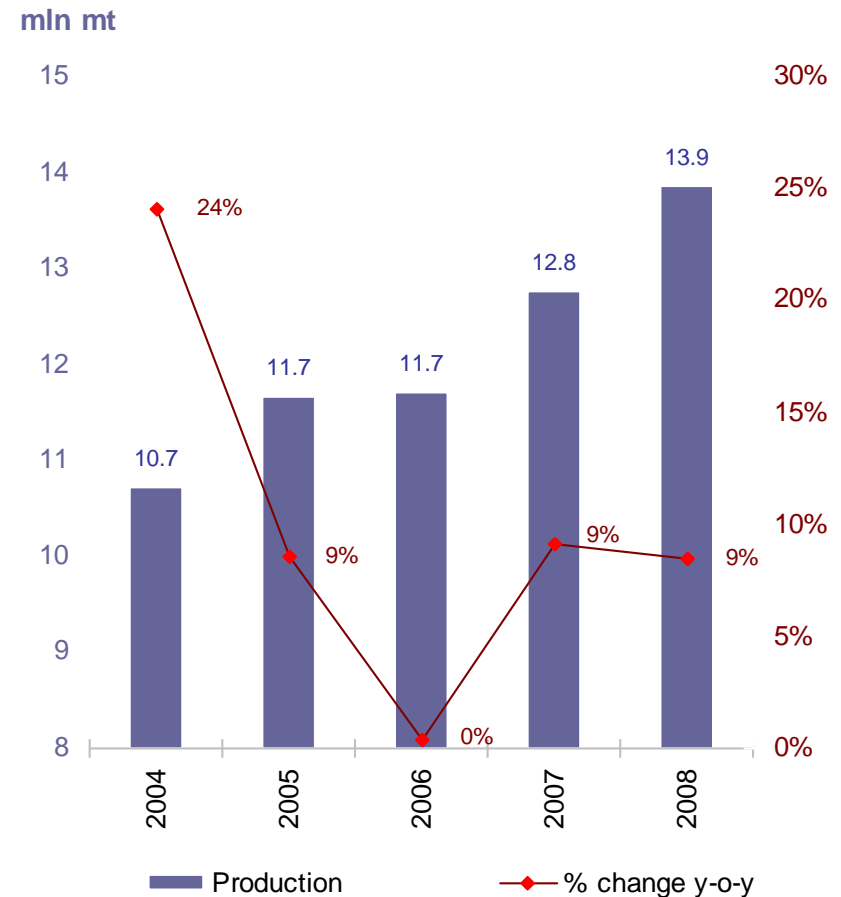
Mn Ore Supply Demand (Mn content)

- Bigger surpluses in second half of 2008
- High prices led to more Mn units coming from non-traditional sources
- High grade ore in high demand throughout 2007 & 2008



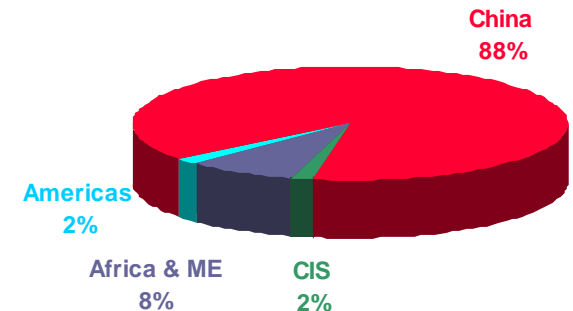
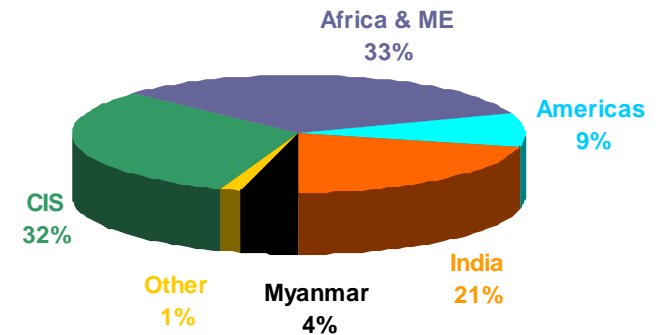
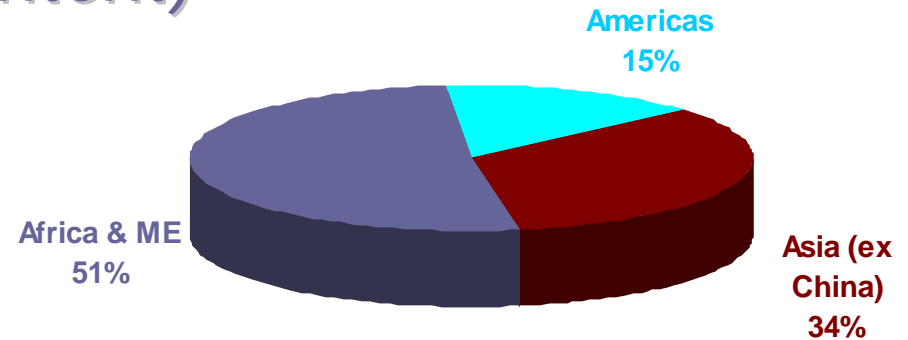
Mn Ore Production (Mn content)

- Mn ore production up nearly 9% in 2008 for the second consecutive year – 13.9 million mt
- Mn ore production in the first three quarters (Q1 thru Q3 08) was up 11% from the previous year.
- Mn Ore production in Q4 08 was up 1% compared to the same period in 2007
- Major cutbacks in 2009 production schedules announced in Q4 08 in response to slowdown in the downstream steel industry



Mn Ore Production (Mn content)

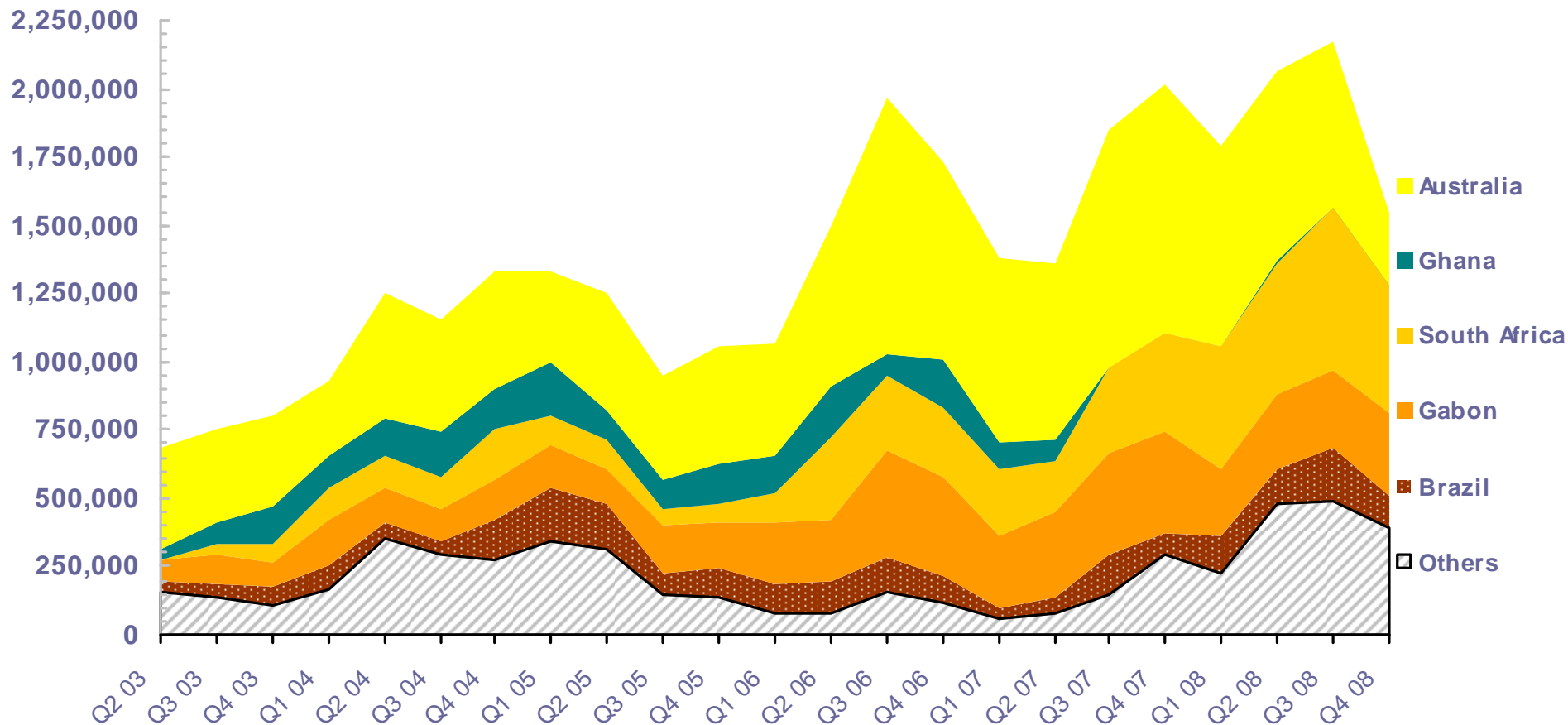
- **High Grade** Mn Ore Production (greater than 43% Mn content) in 2008 was 6.9 million mt
- **Mid Grade** Mn Ore Production (between 30% and 43% Mn content) in 2008 was 3.5 million mt
- **Low Grade** Mn Ore Production (less than 30% Mn content) in 2008 was 3.5 million mt



Mn Ore – China Imports

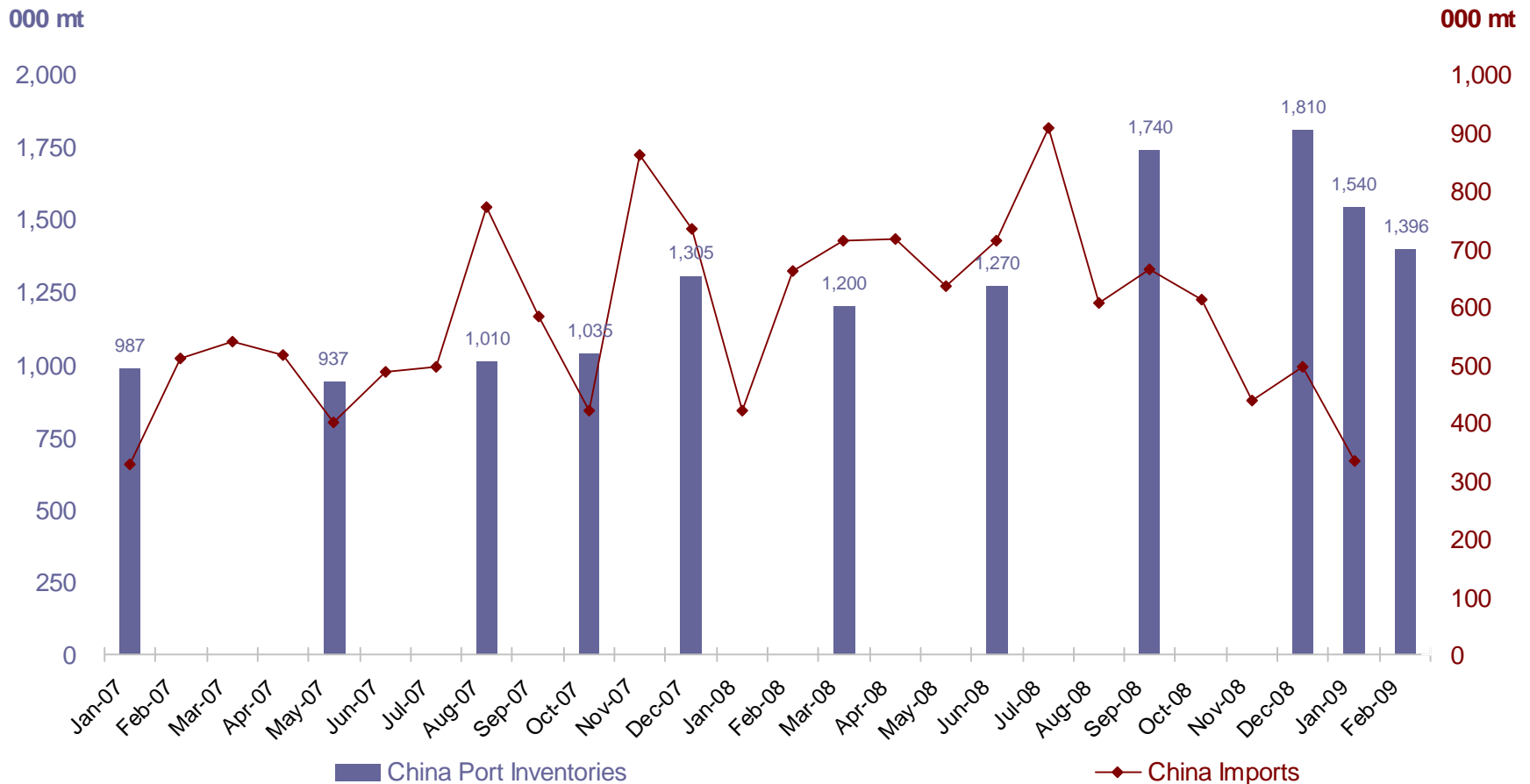
- High Mn Ore prices throughout 2008 increased Chinese imports from smaller scale producing countries – these producers, many regional neighbors shipped nearly 1.6 million mt in 2008
- Imports dropped off in Q4 as demand weakened and port inventories accumulated

mt



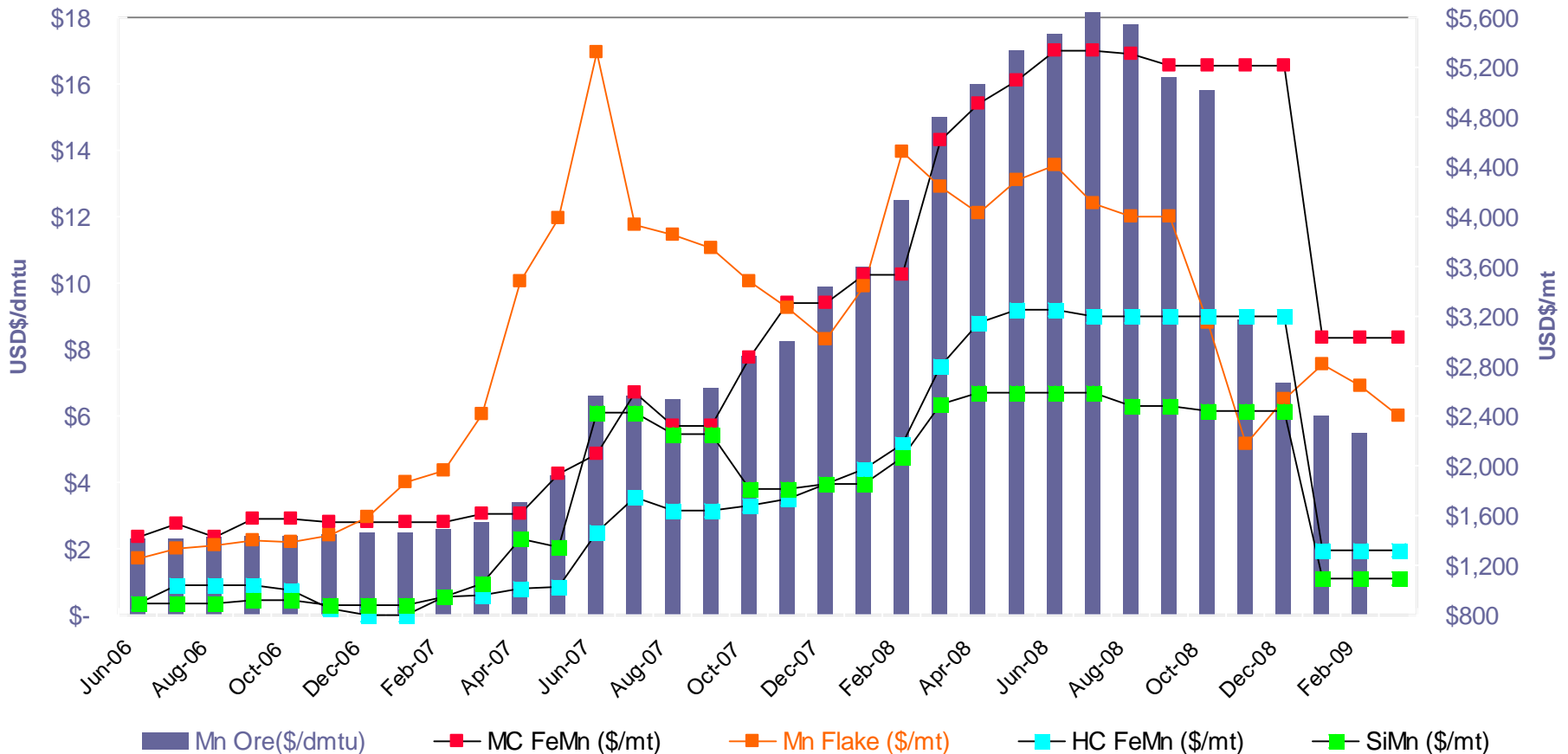
Mn Ore – China Imports & Port Inventories

- Port inventories reached peak in December 2008 – nearing 2 million mt
- Have been reduced by over 400K mt in January & February 2009 as imports fell
- Traders forced to sell high priced stock cheaply due to Q2 08 contracts from major suppliers



Mn Commodity Prices – the EMM difference

- Over 90% of Mn Flake/Metal (EMM) is produced in China using low grade domestic ore
- EMM is driven by the specialty steel and 200 series stainless steel markets
- Different raw material inputs and customer base than alloy market – prices more volatile



Source: Metal Bulletin: Alloys - US free market duty paid fob Pittsburgh; EMM – free market warehouse

CRU : Mn Ore – China spot import



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Summary – Global Economic Crisis

- Global car sales plummeted 30% yoy in January 2009
- EU19 residential and non-residential construction expected to fall in 2009; likewise in other developed countries
- Many property developments are put on hold in developing countries, especially in new cities in India, China & Gulf States
- Global Steel output in 2009 likely to drop the most since 1932 according to WSD (60% chance output = 1,149 million mt)

- US Construction-related spending in House Democrats' stimulus proposal, could approach \$160 billion
- China announces \$586 billion stimulus plan to boost economy
- India Infrastructure can get a much needed boost from Government spending

Summary – Mn & its Reaction

- Steel mills have responded to weak demand by cutting production
- Ore producers and smelters react quickly by cutting back heavily on production in Q4 08 and for 2009
- Short to Mid-term outlook is still uncertain, long-term outlook fundamentally unchanged and strong; **if the global economy gets back on track at its pre-crisis pace led on by a commodity hungry China**



Thank You!
Questions?



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